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REMARKS

Applicant appreciates the continued thorough examination of the present application that is reflected in the non-final Official Action of February 23, 2005. Applicant also appreciates the indication that Claims 7-13, 15, 16, 18, 25, 27 and 28 are allowed, and that Claims 34-36 would be allowable if rewritten in independent form. Applicant further appreciates the indication that Claims 1, 4-6, 14, 17, 19, 22-24 and 26 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph and the claim objections set forth in the Official Action. In response, Applicant has amended the specification and claims to overcome the objections, and has amended Claims 1 and 19 to recite the terms "first value" and "second value" in place of the terms "first criterion" and "second criterion". No new matter has been added.

In addition, upon careful analysis, Applicant respectfully submits that Claims 29-33 are not obvious over U.S. Patent 6,249,518 to Cui (hereinafter "Cui") in view of U.S. Patent 5,819,168 to Golden et al. (hereinafter "Golden"). Accordingly, Applicant respectfully requests reconsideration of the outstanding rejections for the reasons that will be described below.

The Specification Objections Have Been Overcome

The specification has been objected to due to recitations of U.S. Patent Application Numbers in various portions thereof. See Official Action, Page 2. In response, Applicant has amended the specification to recite the corresponding issued U.S. Patent Number for each recitation of a U.S. Patent Application Number. Accordingly, Applicant respectfully requests withdrawal of the objections to the specification.

The Claim Objections Have Been Overcome

Claims 4-6, 14, 17, 26, 32 and 35 have been objected to due to informalities. See Official Action, Page 2. In response, Applicant has amended Claims 4, 6, 14, 17, 26 and 32 as suggested in the Official Action in order to place these claims in condition for allowance. Accordingly, Applicant respectfully requests that the objections to the claims be withdrawn.

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The Section 112 Rejections Have Been Overcome

Claims 1, 4-6, 19 and 22-24 stand rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite. In particular, the Official Action asserts that the recitations of "a first criterion" and "a second criterion" in Claims 1 and 19 are vague and indefinite. *See Official Action, Page 3.* In response, Applicant has amended Claims 1 and 19 to recite "a first value" and "a second value" in place of "a first criterion" and "a second criterion". Claim 4, which depends from Claim 1, has also been so amended. These amendments have been made in order to place the claims in form for allowance, and do not change the scope of the claims because the terms "value," "criterion," and "threshold" are used synonymously herein to indicate a fixed and/or variable quantity. Applicant further submits that these amendments are fully supported by the specification as originally filed, and as such, no new matter has been added. *See Specification, Page 8.* Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §112.

Claims 29-33 Are Patentable Over the Combination of Cui and Golden

Claims 29-33 stand rejected under 35 USC § 103(a) as being unpatentable over Cui in view of Golden. Claim 29 recites:

29. A system for locating an interfering signal synchronization sequence in a received signal that includes a desired signal having a desired signal synchronization sequence and an interfering signal having the interfering signal synchronization sequence, the system comprising:

a demodulator that is responsive to the received signal to generate an estimate of the desired signal and an estimate of a residual signal;

a carrier-to-interference-and-noise ratio estimate generator; and

an interfering signal synchronization sequence finder that is responsive to one of the received signal and the estimate of the residual signal, based upon the estimate of the carrier-to-interference-and-noise ratio of the received signal. (*Emphasis added.*)

The Official Action states that Cui discloses all of the recitations of Claim 29 with the exception of a carrier-to-interference-and-noise ratio estimate generator. *See Official Action, Pages 4-5.* However, Applicant submits that Cui does not disclose or suggest many of the other recitations of Claim 29.

For example, the Official Action asserts that the decision device 512 of Cui corresponds to the interfering signal synchronization sequence finder of Claim 29 because it is responsive to the received signal and outputs estimates of the desired information signal

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and the interference signal. *See Official Action, Page 4.* However, nowhere does Cui appear to disclose or suggest that the decision device 512 finds and/or uses an interfering signal synchronization sequence, as recited in Claim 29, to provide the estimate of the interference signal. In particular, Cui describes a demodulator 120 that includes the decision device 512 which outputs estimates of a desired information signal $S_d(n+1)$ and an interfering signal $S_I(n+1)$. *See Cui, Fig. 5 and Col. 9, lines 40-42.* As described in Cui with reference to Figure 5:

Inside the demodulator 120 of FIG. 5 is a first least square estimator 502, which receives from the timing recovery unit 118, during the initial training period 402, both the matrix of received signals R and the SYNC word that corresponds to the matrix S_d of transmitted known information signals.

See Cui, Col. 7, line 65 to Col. 8, line 2 (Emphasis added). As such, Cui discloses a SYNC word corresponding to the desired information signal S_d , but does not appear to mention a SYNC word or other synchronization sequence that corresponds to the interfering signal S_I . Moreover, the disclosure of Cui appears to contain no mention of any system or other means for locating and/or determining an interfering signal synchronization sequence in the received signal.

Nor is use of an interfering signal synchronization sequence inherent in and/or implied by operations of the demodulator 120 of Cui. For example, as noted in the present specification:

Conventional demodulation can include differential detection...an equalizer that demodulates the desired signal only...and/or a semi-blind joint demodulator that demodulates both a desired signal and at least one interfering signal...It will be understood that semi-blind joint demodulation is not considered joint demodulation according to the invention because semi-blind joint demodulation does not use an estimate of an interfering signal's synchronization sequence.

Specification, Page 6, lines 6-17 (*Emphasis added*). In other words, the interfering signal's synchronization sequence may not necessarily be required for demodulation of the interfering signal. Thus, as Cui contains no mention of an interfering synchronization sequence, and as the use of such a sequence is not inherently disclosed, Applicant submits that Cui does not disclose or suggest "an interfering signal synchronization sequence finder" as recited by Claim 29. Moreover, the Official Action does not rely on Golden as describing an interfering signal synchronization sequence finder. Accordingly, Applicant submits that the combination of Cui and Golden does not disclose or suggest all of the recitations of Claim 29. If the

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Examiner wishes to maintain the rejections based on Cui and Golden, Applicant respectfully requests that the Examiner please point out the specific portions of the cited references that disclose an interfering signal synchronization sequence finder.

For at least the reasons described above, Applicant respectfully submits that Claim 29 is patentable over the cited references. Claims 30-33 depend from Claim 29, and as such, are also patentable for at least the above reasons.

Conclusion

Applicant again wishes to thank the Examiner for the continued thorough examination and for the continued indication that Claims 7-13, 15, 16, 18, 25, 27and 28 are allowed. As shown above, however, all of the remaining claims are patentable over the combination of the cited references. Accordingly, Applicant respectfully requests reconsideration of the outstanding rejections and allowance of the present application.

Respectfully submitted,



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